STATE OF UTAH
NATURAL RESOURCES
Water Rights

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*** M E M O R A N D U M ***

TO: File
FROM: Richard B. Hall, Distribution Engineer
DATE: August 9, 1984
SUBJECT: Provo River Distribution System Field Review

A field Examination of the subject system was undertaken on August 7, 1984 with the following in attendance:

Stan Roberts	Robert Berger
Sherman Giles	Jerry Bronicel
Edward D. Feldt	Richard B. Hall

All of the major diversions were observed. The following items were noted and/or discussed.

1) All of the downstsream diversions and measuring devices are in satisfactory condition with the exception of the Lower Provo City Diversion (Tanner Pace), which is badly undermined.

2) There is a lot of pumping in the downstream reaches of the river. This needs further investigation into legal rights, asessment basis, etc.

3) Most of the measuring devices are located a significant distance downstream of the diversions. They are generally located immediately upstream of the first user.

4) The Murdock Canal, Provo Bench Canal, Geneva Steel Pumping Plant, West Union Canal, Upper East Union Canal and the East River Bottom Canal can all be observed in the immediate vicinity of the mouth of Provo Canyon.

5) The staff gage at the Murdock Diversion Dam is mounted in a bad area and needs to be relocated to accurately measure the approach head.

6) The U.S.G.S. gaging station below Deer Creek is inaccurate and needs to be looked into.

7) The Mercury Manometer used to measure the reservoir stage at Deer Creek makes accurate readings difficult since it is mounted on an angle.

8) The natural flow of the Provo River is calcualted at Deer Creek according to the following formula:

Natural Flow = Releases - s - 9 cfs + EVAp - Call Water

The evaporation is taken from an established schedule rather than actual data.

9) The combination of the evaporation schedule and the reservoir gage makes it possible to calculate a negative natural flow.

10) All of the gages in the Upper Valley are satisfactory. The natural flow is calculated using the following formula:

Natural Flow + Gage Reading = Upstream Canal Diversions - Echo Exchange - Weber/Provo Canal - Duchesne Tunnel.

11) Stan Roberts has acquired the Bureau of Reclamation to install gaging stations just upstream of Deer Creek and on both ends of the proposed Jordinel Reservoir. These should provide some excellent baseline data.

12) The Morse decree set the transmission losses of the river at 4% and stated it could be altered as additional data was generated. According to the Deputy Commissioner, the losses range from 0% to as high as 40% during low flows.

Based on the information obtained and the observations made, the following items need additional consideration:

1) Downstream Pumping.

2) U.S.G.S. station at Deer Creek.

3) The Mercury Manometer at Deer Creek.

4) The evaporation at Deer Creek.

5) The transmission losses.